IN THE CLAIMS

The following is a complete listing of the claims, which replaces all previous versions and listings of the claims.

1. (previously presented) A portable induction heating system, comprising in a portable unit:

a power source electrically coupleable to a fluid-cooled induction heating cable and operable to produce a varying magnetic field;

a programmable power source controller coupled to the power source for regulating the power conversion; and

a cooling unit fluidically coupleable to the fluid-cooled induction heating cable for providing a cooling fluid through the fluid-cooled induction heating cable and around a workpiece to cool the fluid-cooled induction heating cable, wherein the cooling unit is configured to cooperate with at least the fluid-cooled induction heating cable to provide a single continuous cooling path operable to dissipate heat from the fluid-cooled induction heating cable and from an electrical lead extending from the portable induction heating system to the fluid-cooled induction heating cable.

2. (previously presented) The system as recited in claim 1, comprising a flexible fluid-cooled induction heating cable.

3. (previously presented) The system as recited in claim 1, wherein the fluid-cooled induction heating cable is coupled via connector assemblies to the power source and cooling unit.

4. (previously presented) The system as recited in claim 3, wherein the power source controller is operable to control power from the power source to produce a desired temperature profile in the workpiece.

5. (original) The system as recited in claim 2, wherein the induction heating system is operable to preheat a workpiece before welding and to relieve stress from the workpiece after welding.

6. (original) The system as recited in claim 1, comprising a wheeled cart, wherein the power source and cooling unit are disposed on the wheeled cart.

7. (canceled)

8. (original) The system as recited in claim 1, comprising a temperature feedback device operable to provide an electrical signal representative of workpiece temperature.

9-46. (canceled)

47. (previously presented) A portable heating system, comprising in a portable unit:

a power source operable to apply output power to an electrical pathway to inductively heat a workpiece, wherein the electrical pathway includes an induction heating cable adjacent the workpiece, a supply path from the portable heating system to the induction heating cable, and a return path from the induction heating cable to the portable heating system;

a power source controller operable to control the heating of a workpiece in response to programming instructions provided by a user to produce a desired temperature profile in the workpiece;

a cart operable to transport the power source and power source controller to the workpiece;

a cooling unit operable to provide a flow of cooling fluid, the cooling unit being disposed on the cart; and

the induction heating cable, wherein the induction heating cable is a fluid-cooled induction heating cable that cooperates with the cooling unit to form at least a portion of a single cooling pathway that is configured to generally extend along the supply path and the return path of the electrical pathway to remove heat therefrom.

48-50. (canceled)

51. (currently amended) The system as recited in claim[[,]] 47, comprising a temperature feedback device operable to produce a signal representative of workpiece temperature to the power source controller.

52. (original) The system as recited in claim 47, wherein the power source controller uses PID control.

53. (original) The system as recited in claim 47, wherein the power source controller uses PI control.

54. (original) The system as recited in claim 47, wherein the system is operable to raise the temperature of a workpiece to a first temperature and lower the temperature of the workpiece from the first temperature to a second temperature at a desired rate.

55. (original) The system as recited in claim 47, comprising an insulation blanket having a visible line to enable the insulation blanket to be aligned with a weld joint.

56. (canceled)

57. (previously presented) A portable induction heating system, comprising in a portable unit:

a power source electrically coupleable to a portable fluid-cooled induction heating cable and operable to provide output power to produce a varying magnetic field;

a programmable controller operable to control induction heating;

a cooling unit fluidically connected to the fluid-cooled induction heating cable to cool the fluid-cooled induction heating cable via a cooling fluid, wherein the cooling unit dissipates heat in the cooling fluid; and

a flow switch coupled to the programmable controller, wherein the flow switch is configured to detect the cooling fluid returning from the fluid-cooled induction heating cable and to effect a change in the output power when the amount of the cooling fluid returning from the fluid-cooled induction heating cable is below a threshold amount.

58. (previously presented) The system as recited in claim 57, wherein the programmable controller comprises a plurality of visual indicators.

59. (previously presented) The system as recited in claim 57, wherein the fluid-cooled induction heating cable is connected via connector assemblies to the power source and cooling unit.

60. (previously presented) The system as recited in claim 57, wherein the programmable controller is operable to control induction heating to produce a desired temperature profile in a workpiece.

61. (previously presented) The system as recited in claim 57, wherein the induction heating system is operable to preheat a workpiece before welding and to relieve stress from the workpiece after welding.

62. (previously presented) The system as recited in claim 57, comprising a wheeled cart, wherein the power source and cooling unit are disposed on the wheeled cart.

63. (canceled)

64. (previously presented) The system as recited in claim 57, comprising a temperature feedback device operable to provide an electrical signal representative of a workpiece temperature.

65. (previously presented) The system, as recited in claim 64, wherein the electrical signal representative of the workpiece temperature from the temperature feedback device is sent to the programmable controller.

66. (previously presented) The system as recited in claim 57, wherein the programmable controller uses proportional-integral-derivative (PID) control.

67. (previously presented) The system as recited in claim 57, wherein the programmable controller uses proportional-integral (PI) control.

68. (currently amended) A portable induction heating system, comprising in a portable unit:

a power source operable to provide output power to inductively heat a workpiece;

a temperature controller operable to control the induction heating of the workpiece in response to programming instructions provided by a user to produce a desired temperature profile in the workpiece; [[and]]

a cart operable to transport the power source and temperature controller to the workpiece; and

a flow switch coupled to the temperature controller, wherein the flow switch is configured to detect cooling fluid received from a fluid-cooled induction heating cable and to effect a change in the output power when the amount of the cooling fluid received from the fluid-cooled induction heating cable is below a threshold amount.

69. (previously presented) The system as recited in claim 68, wherein the temperature profile is configured for post-weld stress relief of the workpiece.

70. (previously presented) The system as recited in claim 68, comprising a fluid-cooled induction heating cable.

71. (previously presented) The system as recited in claim 68, comprising a cooling unit operable to provide a flow of cooling fluid, the cooling unit being disposed on the cart.

72. (previously presented) The system as recited in claim, 68 comprising a temperature feedback device operable to produce a signal representative of workpiece temperature to the temperature controller.

73. (previously presented) The system as recited in claim 68, wherein the temperature controller uses proportional-integral-derivative (PID) control.

74. (previously presented) The system as recited in claim 68, wherein the temperature controller uses proportional-integral (PI) control.

75. (previously presented) The system as recited in claim 68, wherein the system is operable to raise the temperature of a workpiece to a first temperature and lower the temperature of the workpiece from the first temperature to a second temperature at a desired rate.

76. (previously presented) The system as recited in claim 68, comprising an insulation blanket having a visible line to enable the insulation blanket to be aligned with a weld joint.

77. (previously presented) The system as recited in claim 70, wherein the fluid-cooled induction heating cable is connected via connector assemblies to the power source.

78. (previously presented) The system as recited in claim 71, wherein a fluid-cooled induction heating cable is connected via connector assemblies to the cooling unit.

79. (previously presented) A portable induction heating system, comprising in a portable unit:

a power source electrically coupleable to a fluid-cooled induction heating cable and operable to produce a varying magnetic field in cooperation with the fluid-cooled induction heating cable;

a programmable power source controller coupled to the portable power source for regulating the power conversion;

a cooling unit fluidically connected to the fluid-cooled induction heating cable to cool the fluid-cooled induction heating cable, wherein the cooling unit recycles cooling fluid received from the fluid-cooled induction heating cable to the fluid-cooled induction heating cable; and

a flow switch coupled to the programmable power source controller, wherein the flow switch is configured to detect the cooling fluid received from the fluid-cooled induction heating cable and to effect a change in the output power when the amount of the cooling fluid received from the fluid-cooled induction heating cable is below a threshold amount.

80. (previously presented) The system as recited in claim 79, comprising a flexible fluid-cooled induction heating cable.

81. (previously presented) The system as recited in claim 79, wherein the fluid-cooled induction heating cable is coupled via connector assemblies to the power source and cooling unit.

82. (previously presented) The system as recited in claim 79, wherein the programmable power source controller is operable to control power from the power source to produce a desired temperature profile in the workpiece.

83. (previously presented) The system as recited in claim 79, wherein the induction heating system is operable to preheat a workpiece before welding and relieve stress from the workpiece after welding.

84. (previously presented) The system as recited in claim 79, comprising a wheeled cart, wherein the power source and cooling unit are disposed on the wheeled cart.

85. (previously presented) The system as recited in claim 79, wherein a power source controller is disposed on the wheeled cart.

86. (previously presented) The system as recited in claim 79, comprising a temperature feedback device operable to provide an electrical signal representative of workpiece temperature.

87. (currently amended) A portable heating system, comprising in a portable unit:

a power source operable to apply output power to inductively heat a workpiece via a fluid-cooled induction heating cable;

a controller operable to control the heating of the workpiece in response to programming instructions for producing a desired temperature profile in the workpiece;

a cooling unit configured for fluid communication with the fluid-cooled induction heating cable, the cooling unit and fluid-cooled induction heating cable cooperating to produce a closed-loop for recycling cooling fluid; [[and]]

a cart operable to transport the power source, cooling unit, and controller to the workpiece; and

a flow switch coupled to the controller, wherein the flow switch is configured to detect the cooling fluid received from the fluid-cooled induction heating cable and to effect a change in the output power when the amount of the cooling fluid received from the fluid-cooled induction heating cable is below a threshold amount.

88-90. (canceled)

91. (previously presented) The system as recited in claim 87, comprising a temperature feedback device operable to produce a signal representative of workpiece temperature to the controller.

92. (previously presented) The system as recited in claim 87, wherein the controller uses proportional-integral-derivative (PID) control.

93. (previously presented) The system as recited in claim 87, wherein the controller uses proportional-integral (PI) control.

94. (previously presented) The system as recited in claim 87, wherein the controller is operable to raise the temperature of a workpiece to a first temperature and

lower the temperature of the workpiece from the first temperature to a second temperature at a desired rate.

95-96. (canceled)